

REMARKS

Claims in the case are 10-21, upon entry of this Amendment. Claims 10, 14-16, 18, and 19 have been amended, no claims have been added, and no claims have been cancelled herein.

Support for Claim Amendments:

Support for the amendments to claims 1, 15, 16, and 19 with regard to the term de-bittered is provided by the specification as a whole and, more particularly, by: page 3, lines 20-27; page 7, lines 16-26; page 8, lines 17-18; and page 9, lines 17-20 of the specification.

Support for the amendments to claims 14 and 18 is provided by the specification as a whole and, more particularly, by page 5, lines 15-20 of the specification.

Support for the amendment to step-(c) of claim 16 is provided by the specification as a whole and, more particularly, by page 6, line 14 through page 7, line 5 of the specification.

The amendments herein are not believed to represent the entry of new matter into the case. Entry of the present Amendment is respectfully requested.

Indefiniteness Rejection:

Claims 14, 18, and 16-21 stand rejected under 35 U.S.C. § 112, second paragraph. This rejection is respectfully traversed in light of the amendments herein and the following remarks.

Claims 14 and 18 have been amended herein such that the fermentation is continued for at least one hour longer than a time required for optimal growth of the fermenting microorganism. As discussed previously herein, this amendment to claims 14 and 18 is supported by the specification. Applicants respectfully submit that a skilled artisan would be able to determine the time required for optimal growth using art-recognized growth measurement techniques, and without undue experimentation.

Claim 16 has been amended herein to remove the recitation "the mixture" from step-(c) thereof. It is respectfully submitted that presently amended claim 16 provides sufficient antecedent basis for the terms recited therein.

In light of the amendments herein and the preceding remarks, reconsideration and withdrawal of the present rejection under 35 U.S.C. § 112, second paragraph, are respectfully requested.

Anticipation Rejection:

Claims 15, 19, and 20 stand rejected under 35 U.S.C. § 102(b) as being anticipated by United States Patent No. 6,514,941 B1 (**Tolton, II et al.**). This rejection is respectfully traversed with regard to the amendments herein and the following remarks.

Tolton, II et al. discloses a method of producing certain ACE-I peptides and, in particular, C6, C7, and C12 peptides that are not cleaved, by hydrolysis of casein, followed by concentration and purification. See, for example, the Abstract, column 2, lines 46-65, and column 3, lines 6-18 of Tolton, II, et al.

Tolton, II et al. discloses adding the ACE-I peptides to food materials, such as, yogurt. See, for example, column 5, lines 1-10 of Tolton, II et al. Tolton, II et al., however, provides **no** disclosure or suggestion with regard to **fermenting** the food product, such as, yogurt, **after** addition of the ACE-I peptides to the food product.

The food products of Applicants' claims are prepared by a process that includes fermenting the food material after incorporation or formation of the peptides therein. See, in particular, step-(d) of present claims 10 and 16.

Fermentation of the food material after incorporation or formation of the peptides therein results in digestion of the peptides, which results in the formation of shorter peptides having reduced molecular weight. The food product containing the resulting shorter peptides is no longer bitter tasting and is correspondingly de-bittered. Attention is directed to Examples 1 and 2 of the specification, which demonstrate the digestion of the C12 peptide and related reduction in bitterness, in accordance with the method and resulting food products of the present claims. In particular, see page 10, lines 1-7, page 10, line 29 through page 11, line 4, and FIG.'s 2 and 4 of the specification.

As discussed above, Tolton, II et al. provides **no** disclosure or suggestion with regard to **fermenting** a food product, such as, yogurt, after incorporation or formation of ACE-I

peptides therein. As such, the food products disclosed by Tolton, II et al. contain ACE-I peptides that have **not** been digested (or cleaved), and, correspondingly, have bitterness resulting from the undigested peptides. The food products prepared by the method of Applicants' present claims contain digested ACE-I peptides, and, correspondingly, have reduced bitterness (i.e., are debittered food products), coupled with ACE-I inhibiting properties. As such, the food products prepared by the method of Applicants' present claims are materially different from the food products disclosed by Tolton, II et al.

In light of the amendments herein and the preceding remarks, Applicants' claims are believed to be unanticipated by and patentable over Tolton, II et al. Reconsideration and withdrawal of the present rejection are respectfully requested.

Obviousness Rejections:

I. Reuter in view of Tolton, II et al. - Claims 10-15.

Claims 10-15 stand rejected under 35 U.S.C. § 103(a) as being obvious over United States Patent No. 3,326,693 (**Reuter**) in view of Tolton, II et al. This rejection is respectfully traversed with regard to the amendments herein and the following remarks.

Reuter discloses the fermentation of milk with *L. acidophilus*, in which a parent culture of the acidophilus is grown on milk, which is fortified with casein peptone. The casein peptone is used for increasing the amount of bacteria and keeping the bacteria viable. See, for example, column 2, lines 30-49, and column 3, lines 7-39 of Reuter.

As discussed previously herein, Tolton, II et al. discloses a method of producing certain ACE-I peptides and, in particular, C6, C7, and C12 peptides that are not cleaved, by hydrolysis of casein, followed by concentration and purification.

Reuter provides no disclosure or suggestion with regard to the casein peptone containing ACE-I peptides. As such, a skilled artisan would not be reasonably motivated to combine or otherwise modify the disclosure of Reuter with the disclosure of Tolton, II et al. in an attempt to somehow arrive at the method and/or food products of Applicants' present claims.

With further regard to a lack of motivation to combine or modify the cited references, Reuter and Tolton, II et al., either alone or in combination, do not disclose, suggest, or provide any expectation of success with regard to the method of Applicants' present claims, which results in the formation of food products having reduced bitterness coupled with ACE-I inhibiting properties. To the contrary, a skilled artisan would expect a substantial reduction in or loss of ACE-I activity if a food product were fermented after addition or formation of ACE-I peptides thereto/therein, since fermentation is known to affect proteins and peptides (e.g., resulting in digestion thereof). It is respectfully submitted that the rejection makes impermissible use of hindsight reconstruction by picking, choosing, and combining portions of the cited references in an attempt to arrive at Applicants' claimed invention.

Even if Reuter and Tolton, II et al. were combined, such combination would not result in the method or food products of Applicants' present claims. As discussed previously herein, Tolton, II et al. provides **no** disclosure or suggestion with regard to **fermenting** a food product, such as, yogurt, after incorporation or formation of ACE-I peptides therein.

Regarding claim 15, and, as discussed previously herein, the food products prepared by the method of Applicants' present claims contain digested ACE-I peptides and, correspondingly, have reduced bitterness (i.e., are de-bittered food products), and also have ACE-I inhibiting properties. As such, the food products prepared by the method of Applicants' present claims are materially different from the food products disclosed by Reuter and/or Tolton, II et al.

In light of the amendments herein and the preceding remarks, Applicants' claims are believed to be unobvious and patentable over Reuter in view of Tolton, II et al. Reconsideration and withdrawal of the present rejection are respectfully requested.

II. Masuyama et al. in view of Klaver et al. - Claims 16-21.

Claims 16-21 stand rejected under 35 U.S.C. § 103(a) as being obvious over European Patent Application No. 1 018 341 A1 (**Masuyama et al.**) in view of United States Patent No. 4,938,973 (**Klaver et al.**). This rejection is respectfully traversed with regard to the amendments herein and the following remarks.

Masuyama et al. discloses the production of ACE-I peptides starting from milk, and discloses specific tripeptides, such as, IPP and VPP. See, for example, paragraphs [0017] through [0019] of Masuyama et al.

Klaver et al. disclose the preparation of yogurt from milk using certain bacteria, such as, *S. thermophilus* and *L. bulgaricus*, using a semipermeable membrane that keeps certain microorganisms (e.g., *lactobacillus*) that may adversely affect storage stability, separate from the final product. See the Abstract, column 2, lines 20-28, column 2, lines 55-68, column 8, lines 47-68, and column 9, lines 10-31 of Klaver et al.

Masuyama et al. and Klaver et al., either alone or in combination, do not disclose or suggest the unexpected results provided by the method of Applicants', which results in the formation of food products that are de-bittered and have ACE-I inhibiting properties. To the contrary, and, as discussed previously herein, a skilled artisan would expect a substantial reduction in or loss of ACE-I activity if a food product were fermented after addition or formation of ACE-I peptides thereto/therein, since fermentation is known to affect proteins and peptides (e.g., resulting in digestion thereof). As such, Masuyama et al. and Klaver et al., either alone or in combination, provide no motivation to combine or otherwise modify their disclosures in and attempt to arrive at Applicants' claimed invention.

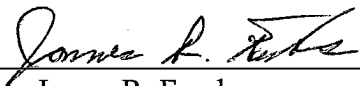
Even if Masuyama et al. and Klaver et al. were combined, such combination would not result in Applicants' claimed invention. Masuyama et al. and Klaver et al., either alone or in combination, provide **no** disclosure or suggestion with regard to **fermenting** a food product, such as, milk, after incorporation or formation of ACE-I peptides therein.

In light of the amendments herein and the preceding remarks, Applicants' claims are believed to be unobvious and patentable over Masuyama et al. in view of Klaver et al. Reconsideration and withdrawal of the present rejection are respectfully requested.

CONCLUSION

In light of the amendments herein and the preceding remarks, Applicants' presently pending claims are deemed to meet all the requirements of 35 U.S.C. § 112, and to define an invention that is unanticipated, unobvious, and, hence, patentable. Reconsideration of the rejections and allowance of all of the presently pending claims are respectfully requested.

Respectfully submitted,
THE WEBB LAW FIRM

By 
James R. Franks
Registration No. 42,552
Attorney for Applicants
436 Seventh Avenue
700 Koppers Building
Pittsburgh, PA 15219
Telephone: (412) 471-8815
Facsimile: (412) 471-4094
E-mail: webblaw@webblaw.com